

IN THE CLAIMS

Please amend the claims as follows:

1 (Canceled).

2 (Canceled).

3 (Currently Amended). A two-dimensional photonic crystal according to claim [[2]] 8, wherein the unit lattice is a tetragonal lattice.

4 (Previously Presented). A two-dimensional photonic crystal formed by a periodical two-dimensional arrangement of plural unit lattices, comprising:

a prism-shaped first dielectric area arranged at each lattice point of each unit lattice;

a prism-shaped second dielectric area arranged at an approximate center of each unit lattice; and

a third dielectric area adjacent to and around the first and second dielectric areas, wherein

the third dielectric area has a relative dielectric constant different from relative dielectric constants of the first and second dielectric areas,

the unit lattice is a tetragonal lattice, and

the first dielectric area and the second dielectric area have a substantially cylindrical shape and satisfy a relationship:

$$0.4a \leq r_1 + r_2 \leq 0.6a,$$

wherein r_1 indicates a radius of the cylindrical first dielectric area, r_2 indicates a radius of the cylindrical second dielectric area, and a indicates a unit length of a lattice axis of the tetragonal lattice.

5 (Currently Amended). A two-dimensional photonic crystal according to claim [[3]] 4, wherein a relative dielectric constant ϵ_1 of the first dielectric area is equal to a relative dielectric constant ϵ_2 of the second dielectric area.

6 (Previously Presented). A two-dimensional photonic crystal according to claim 3, wherein a relative dielectric constant ϵ_1 of the first dielectric area is smaller than a relative dielectric constant ϵ_2 of the second dielectric area.

7 (Currently Amended). A two-dimensional photonic crystal according to any one of claims ~~2 and~~ 4-6, wherein a relative dielectric constant ϵ_3 of the third dielectric area satisfies at least a relation $\epsilon_3 > \epsilon_1$.

8 (Currently Amended). ~~A two-dimensional photonic crystal according to claim 2,~~
A two-dimensional photonic crystal formed by a periodical two-dimensional arrangement of plural unit lattices, comprising:
a prism-shaped first dielectric area arranged at each lattice point of each unit lattice;
a prism-shaped second dielectric area arranged at an approximate center of each unit lattice; and
a third dielectric area adjacent to and around the first and second dielectric areas, the third dielectric area having a relative dielectric constant different from relative dielectric constants of the first and second dielectric areas,

wherein a relative dielectric constant ϵ_1 of the first dielectric area, a relative dielectric constant ϵ_2 of the second dielectric area, and a relative dielectric constant ϵ_3 of the third dielectric area satisfy relations:

$$\epsilon_3 > \epsilon_1, \text{ and } \epsilon_2/\epsilon_1 > 20.$$

9 (Currently Amended). A two-dimensional photonic crystal according to ~~any one of~~ claims 2 and claim 4, wherein the first and second dielectric areas are formed by air and the third dielectric area is formed by a dielectric material containing a ceramic material.

10 (Currently Amended). A two-dimensional photonic crystal according to any one of claims ~~2 and~~ 4-6; wherein the first and second dielectric areas are formed by a dielectric material containing a ceramic material and the third dielectric area is formed by air.

11 (Currently Amended). A two-dimensional photonic crystal according to any one of claims [[2,]] 4-6, and 8, wherein the first, second and third dielectric areas are formed by a dielectric material containing a ceramic material.

12 (Currently Amended). A two-dimensional photonic crystal according to any one of claims [[2,]] 4-6, and 8, wherein a unit length a of the lattice axis of the tetragonal lattice is different depending on a frequency of a light or an electromagnetic wave entering the two-dimensional photonic crystal.

13 (Currently Amended). A photonic crystal waveguide including a two-dimensional photonic crystal according to any one of claims [[2,]] 4-6, and 8, wherein a linear defect is formed in a periodical lattice arrangement of the two-dimensional photonic crystal.

14 (Currently Amended). A photonic crystal resonator including a two-dimensional photonic crystal according to any one of claims [[2,]] 4-6, and 8, wherein a point-shaped defect is formed in a periodical lattice arrangement of the two-dimensional photonic crystal.

15 (New). A two-dimensional photonic crystal formed by a periodical two-dimensional arrangement of plural unit lattices, comprising:

- a prism-shaped first dielectric area arranged at each lattice point of each unit lattice;
- a prism-shaped second dielectric area arranged at an approximate center of each unit lattice; and

- a third dielectric area adjacent to and around the first and second dielectric areas, the third dielectric area having a relative dielectric constant different from relative dielectric constants of the first and second dielectric areas,

- wherein the first and second dielectric areas are formed by air and the third dielectric area is formed by a dielectric material containing a ceramic material

Claim 16 (New). A two-dimensional photonic crystal formed by a periodical two-dimensional arrangement of plural unit lattices, comprising:

- a prism-shaped first dielectric area arranged at each lattice point of each unit lattice;
- a prism-shaped second dielectric area arranged at an approximate center of each unit lattice; and

a third dielectric area adjacent to and around the first and second dielectric areas, the third dielectric area having a relative dielectric constant different from relative dielectric constants of the first and second dielectric areas,

wherein the first and second dielectric areas are formed by a dielectric material containing a ceramic material and the third dielectric area is formed by air.